

PATENT APPLN. NO. 10/578,095  
RESPONSE UNDER 37 C.F.R. §1.111

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REMARKS

The Office has rejected claims 1-7 of the application under 35 U.S.C. § 103(a) as being unpatentable over EP 1260278 A2 (identified by the Office as Yoichi et al.) (herein: "Yoichi") in view of Poole et al., US 4949003 ("Poole").

The Office characterizes Yoichi as disclosing an ultraviolet-curable under coating which is within the scope of the ultraviolet-curing resin composition defined in claims 1 and 2 of the application, except that Yoichi does not specifically disclose the chlorine content of the chlorinated polyolefin. The Office characterizes Poole as teaching UV curable coating compositions comprising polymerizable (meth)acrylates and maleic anhydride grafted chlorinated polyolefins with a chlorine content of about 5 to 25 weight percent. The Office concludes that "[in] view of the substantially identical endeavors of developing UV curable coating compositions comprising chlorinated polyolefins that have been grafted with maleic anhydride, it would have been obvious to the person of ordinary skill in the art to incorporate the chlorine content teachings of [Poole] into [Yoichi] ... ." (Office Action, page 4, last 5 lines).

Regarding claims 3 to 7, the position of the Office is understood to be that these claims have substantially the same

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scope as claim 1 since the claims do not recite any ingredients that are unique to the intended applications of the compositions of these claims.

Claim 1 has been amended to include the limitation that the ultraviolet-curing resin composition of the present invention further contains 1 to 10 parts by mass of an epoxy compound per 100 parts by mass of the chlorinated polyolefin (a). Support for this amendment can be found on page 10, lines 11 to 13, and in Production Examples 1-4 of the English specification. In Production Examples 1-4, and in Examples 1-9 carried out using the chlorinated polyolefin resins obtained in Production Examples 1-4, p-tert-butylphenyl glycidyl ether was added as an epoxy compound (i.e., as a stabilizer).

In the ultraviolet-curing resin of the present invention as defined by the amended claims, 1 to 10 parts by mass of an epoxy compound (stabilizer) is(are) added per 100 parts by mass of chlorinated polyolefin (a). The epoxy compound traps hydrochloric acid that is generated from the chlorinated polyolefin (a) by dehydrochlorination. (Refer to page 9, lines 30 to 33 of the specification). In particular, when 1 to 10 parts by mass of an epoxy compound is(are) added to 100 parts by mass of chlorinated polyolefin (a), hydrochloric acid can be efficiently trapped

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without reducing the adhesion of the composition to a polyolefin substrate, and discoloration of the cured coating film and other drawbacks can be prevented.

In contrast, when an epoxy compound stabilizer is not used, notable coloration (brown-black) is observed in the resulting cured coating film caused by ultraviolet irradiation. For example, when a chlorinated polyolefin is produced in the same manner as in Production Example 1 of the present specification, but without the use of a stabilizer, and a supplementary examination of Example 1 in the present specification is conducted using the above-obtained chlorinated polyolefin, the resulting cured coating film will suffer from pronounced coloration (brown-black) caused by ultraviolet irradiation. Adhesion to the polyolefin substrate can be accomplished without adding a stabilizer. However, the appearance of pronounced coloration on a cured coating film can adversely affect its commercial value and the practicability of the use of the cured coating film for paints, inks, adhesives, sealing agents and primers.

Neither Yoichi nor Poole discloses or suggests adding an epoxy compound to the ultraviolet-curing resin compositions disclosed therein and neither discloses or suggests the advantageous properties of an ultraviolet-curing resin composition as recited in

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the claims of the present application which contains 1 to 10 parts by mass of an epoxy compound per 100 parts by mass of the chlorinated polyolefin (a).

In paragraph [0019] Yoichi discloses "epoxy group-containing polymerizable unsaturated monomers such as glycidyl (meth)acrylate and 3,4-epoxycyclohexylmethyl (meth)acrylate". However, these are polymerizable unsaturated monomers that are used for producing an acrylic resin (polymer), and are not an epoxy compound that can itself serve as a stabilizer. In paragraph [0031] Yoichi discloses "a compound having at least two epoxy or glycidyl groups within the molecule". However, such compound is a material for producing epoxy acrylate through the reaction with (meth)acrylic acid and is also not an epoxy compound as recited in the amended claims. Therefore, the compound is fundamentally different from the epoxy compound of the composition of the present invention, which compound itself functions as a stabilizer.

For the above reasons, the combination of Yoichi and Poole fails to support a case of prima facie obviousness under 35 U.S.C. § 103(a) of an ultraviolet-curing resin composition as now recited in the claims of the present application and that contains 1 to 10 parts by mass of an epoxy compound (stabilizer) per 100 parts by mass of chlorinated polyolefin (a). Accordingly, the present

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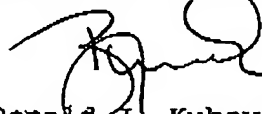
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invention is unobvious over Yoichi and Poole under 35 U.S.C. § 103(a) and removal of the rejection based on these references is in order. .

The foregoing is believed to be a complete and proper response to the Office Action dated March 19, 2009.

In the event that this paper is not considered to be timely filed, applicants hereby petition for an appropriate extension of time. The fee for any such extension and any additional required fees may be charged to our Deposit Account No. 111833.

Respectfully submitted,  
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